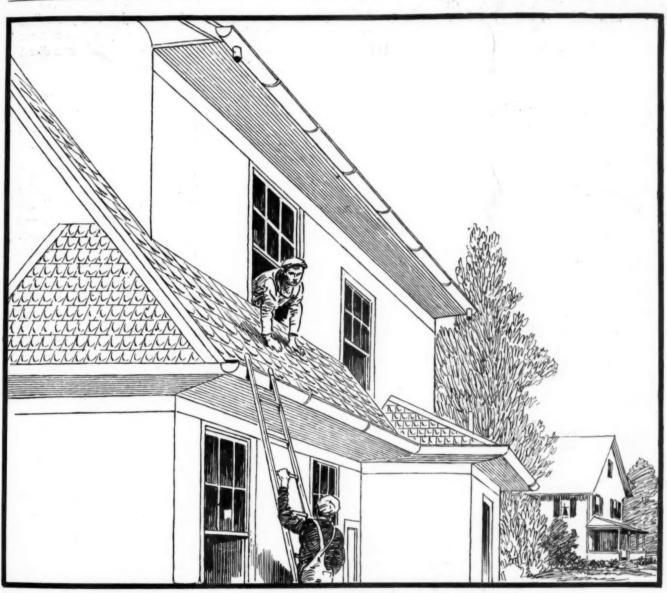
Vol. 88. No. 17. 620 SOUTH MICHIGAN AVENUE, CHICAGO, OCTOBER 25, 1924.

2.00 Per Year



GOOD WILL

mending life long service, reasonable price, no up-keep are manufactured by the following:

When you advocate the use of Horse Head Zinc expense or replacements, and a non-staining material Horse Head Zinc conductor pipes, gutters and trim you are recom-

David Lupton's Sons Company, Philadelphia, Pennsylvania. The J. M. & L. A. Osborn Company, Cleveland, Ohio. Klauer Manufacturing Company, Dubuque, Iowa. Holbrook, Merrill & Stetson, San Francisco, Oakland and Los Angeles, California.



The New Jersey Zinc Company



Here's What the Mueller Yob Prospector' Does -



The
MUELLER
Zone of
EXTRA
Heating

gives the Mueller Double Radiator Furnace more square feet of direct heating surface than any other warm air furnace of equal size fire pot. One of the reasons why this furnace uses less coal—and is easier to sell.

HE Lowell - Moore Hardware Co., Mueller dealer at Fort Collins, Colo., put the Mueller "Job Prospector" to work one morning recently, and that same afternoon closed two furnace jobs as a direct result of the "prospecting."

This instance of immediate direct results from a unique form of sales service, is typical of many other similar cases among live Mueller dealers all over the country.

And, at that, the Mueller "Job Prospector" is just one detail of a most comprehensive co-operative service that extends all the way from *finding the furnace prospect*, and actually closing the sale, to preparing estimates and free blue print plans—saving you this time and effort for installation work.

Let the Mueller "Job Prospector"—and the Mueller Engineering Staff—work for you. A note on your firm letterhead will bring full details.

L. J. MUELLER Furnace Company

Makers of Warm Air, Steam, Vapor and Hot Water Heating Systems, Registers, Pipe, Furnace Fittings, Etc.

193 Reed St. Milwaukee, Wisconsin

Warehouses: Brooklyn, St. Louis, Detroit, Boston, St. Paul, Minneapolis, Baltimore, Seattle, Salt Lake City

MUELLER FURNACES

— dependable heat — easier to sell than to sell against

Published to Serve the Warm Air Furnace Sheet Metal, Stove and Hardware Interests

Address all communications and remittances to AMERICAN ARTISAN AND HARDWARE RECORD 620 South Michigan Avenue CHICAGO, ILLINOIS

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Table of Contents

Page
Editorial 1
Sheet Metal Trade Is Starting Off on Great Promotion Campaign
Random Notes and Sketches, by Sidney Arnold
Heating and Ventilating Department21 to 2
Mr. Smith Wants to Know Why Furnaces Cost So Much When He Buys
Turton Advises Torgerson How to Rearrange His Heating System Without Use of Cold Air Pipe
Moulders' Union Is Not on Good Terms with Holland Furnace Company
Sheet Metal Department27 to 3
Kothe Shows How Patterns for Raking Gable Moulds Are Developed
J. E. Mattingly Explains Why Engineering Department Is a Sheet Metal Shop Ne- cessity
If You Do Not Care to Get More Sheet Metal Cornice Work, Then This Article Is Not for You

Page	
Send Your Sheet Metal Slogan in Without Delay	,
How Stremel Brothers Capitalized on Effect- iveness of Fire Doors in Resisting Intense Heat)
Notes and Queries	
Hardware Department32 to 34	
Window Displays 32	
Contrasting Old and New Ways of Doing Household Duties Makes Strong Appeal for Washing Machine Sales	
Send Those Prize-Winning Window Display Photographs Not Later Than January 31, 1925	
Coming Conventions	
Retail Hardware Doings 34	
Advertisement Criticism	
Thanksgiving Day Advertising Can Be Made to Pull Business if Properly Worded 35 Stove and Range Sales	
Markets	

Hardware and Metal Prices 38, 40, 42 and 44

SOLICITING INQUIRIES

READERS of AMERICAN ARTISAN AND HARDWARE RECORD are con-**EADERS of AMERICAN ARTISAN AND HARDWARE RECORD are constantly writing to us asking for information on thousands of puzzling problems confronting them in their daily work. Many of these inquiries are published in our reading columns. Many more are not because of a lack of space. However, they are all answered by letter when not published and with the greatest despatch.

In addition to the many inquiries received by mail in our office every day, few subscribers come to Chicago without giving us a call by telephone from their hotel

or paying a visit to the office in person.

We especially invite personal visits, as in this way we get into closer personal touch with our subscribers and their problems and are thus better able to help them when sticky problems confront them.

When writing remember that the more you give us of the details of your prob-

lem the easier it is for us to help you.

This Service Department is maintained for the especial use of the subscribers,

and no charge whatsover is made for it.

Where Anaconda Copper means Economy

Refrigerator linings

Flashings and gutter linings

Eaves troughs and hangers

Ventilators [exterior]

Elbows

Scuttles

Cornices

Drains for shower baths, sinks, floors

Elevator and dumbwaiter shaft linings

Linings for corn cribs, silos and feed bins

Flues, small chimneys and chimney flashings

Ventilating system exhaust hoods and flues of various description

Suspended gutters

Kalomine work

Leaders, and hooks and straps

Skylights

Bulkheads

Weather vanes

Furnace smoke pipes

Window sills and trim

Ridge rolls and valleys

Skylight curbs and fittings

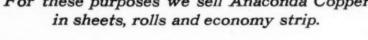
Gutters back of metal covered wood cornices

Metal lath (in stucco used for exterior purposes]

Outlets in composition or promenade-tile roofs

For these purposes we sell Anaconda Copper in sheets, rolls and economy strip.

If your jobber cannot supply you, correspond with the nearest branch.



THE AMERICAN BRASS COMPANY

GENERAL OFFICES: WATERBURY, CONNECTICUT

New York, Chicago Boston, Philadelphia, Providence Pittsburgh, Cleveland, Detroit incinnati, St. Louis, San Francisco



Mills and Factories: Ansonia, Conn., Torrington, Conn. Waterbury, Conn., Buffalo, N. Y. Hastings-on-Hudson, N.Y., Kenosha, Wis.

In Canada: ANACONDA AMERICAN BRASS LIMITED, NEW TORONTO, ONTARIO

Sheet Metal Trade Is Starting Off on Great Promotion Campaign.



TWO important events occurred during the recent Atlantic City Convention, as reported in our issue of October 18th.

924.

The first was the announcement of the great promotion campaign which has been undertaken by the manufacturers of sheet steel and which is to cover the next three years.

The second was the adoption of the recommendations made by the Sheet Steel Simplification Committee, by which the number of sizes and gauges of flat steel sheets will be reduced from 1,819 to 164, with corresponding reductions in corrugated sheets, terne plate, conductor pipe and eaves troughs.

It is difficult at this time to even estimate the ultimate effect upon the sheet metal trade of these two transactions; it is safe, however, to state that the effect will not only be great, but also highly beneficial.

But in order to secure the fullest possible benefit, it is necessary that every one—whether he be a manufacturer, wholesaler, retail distributor or contractor—coöperate wholeheartedly in both movements.

The excellent work of the Simplification Committee will come to naught if wholesalers and others insist on having "special" sizes, gauges or finishes made for them exclusively unless a sufficiently large premium to make up for the additional cost is paid—and in most cases such a premium will be prohibitive, as it ought to be.

The Sheet Steel Trade Extension Plan has wonderful possibilities, but these will fall short of what they ought to be unless those who are in closest contact with the ultimate user show a real, constructive, aggressive interest in the campaign.

As Mr. Mercer said, this campaign is not a charity proposition—the manufacturers of sheets are not going to do a lot of work "for" anybody; they plan to do a great deal in "cooperation with" those who are willing to help themselves to get more sheet metal business.

Many of the sheet metal contractors will take a very active part in this trade extension campaign, because they are progressive business men—and their business will derive direct benefits in the shape of increased and more profitable sales.

Some will follow their usual custom and fail to cooperate. They may receive some slight benefit from the campaign, but they will in most cases find themselves left far behind in the race for the business that is bound to be developed by this campaign.

From what we know of the men who have developed the plan and of those who will carry it into action, we have no hesitancy in stating that every sheet metal contractor who coöperates in such manner as his local circumstances permit will receive manifold returns for every dollar he spends in coöperation with the Committee, and the more whole-hearted his coöperation is the greater will be the benefits he will receive.

The Sheet Metal industry is going forward—we shall see before long a tremendous increase in the use of sheet metals of all kinds, but with this increase should also come better business methods, such as better quality of work, less competition on a mere price basis, greater realization of responsibility toward those for whom we do work and to those from whom we buy.

The year of 1924 will go down in history as the year when the Sheet Metal Industry started on the road toward "coming into its own." We congratulate the men who have worked so long and so faithfully to plan and bring about these two accomplishments.

But it is up to every one of us—you and me personally—to see that this great work will not have been in vain.

October 25, 1924.

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Random Notes and Sketches. By Sidney Arnold

I had lunch with E. B. Langenberg the other day when he was in Chicago on his way from the Foundrymen's Convention in "Schlitztown," and he told me the following incident to emphasize the fact that some people are inclined to exaggerate and boast a little too much.

Two colored men were discussing the merits of their respective buglers, and this was the manner of their "argufying":

"Cullud boy, we's got a bugler in our company whut is a bugler! When dat win'jammer blows pay day hit soun' lak de simple funny orkesstry done broke loose on Ill Truvy Tore!"

"Is dat so? Nigger, y'all ain' got no bugler 'tall. When dat li'l' boy blue of Company K steps out an' wrops 'is lip roun' dat h'on an' sounds mess call, de soldier boy looks down at his beans an' say: 'Strawberries, berhave yo'self—you done kicked all de whupped cream outen de plate!'"

Henry E. Schwab, the GiltEdge man from Milwaukee, is a "teetotaler," but I am rather wondering why he sent me the following:

The Bootlegger's Lament.

I hate to sell wood alcohol;
I know it is a sin
To flavor it with juniper
And palm it off as gin.
I weep a quart of salty tears
With every pint I sell.
I sob to hear a popping cork—
'Tis someone's funeral knell.

Oh, once I thought that I could

My poor weak fellow men.

The judge said: "This time ninety days,

And next time it's the pen."

I hate to sell wood alcohol,
But, oh, how I hate jails!

I mourn for every customer,
But—dead men tell no tales!

Why pick on me, Henry?

Here is J. H. Riddle and his two German Shepherds. By vocation "J. H." is selling "Milcor" sheet metal products in Nebraska, but his avocation is raising "pups," and he is proud of both jobs.

He had come to Lancaster, Pennsylvania, to be with his parents at



J. H. Riddle and His German Shepherds.

the celebration of their golden wedding, so Louis Kuehn suggested that he run over to Atlantic City for the meeting of the Metal Branch and help Brother Christman look after the wild waves.

I am informed that Ray Schweinfurth, who makes "Vernois" furnaces, has gone into the mining business, as a result of the discovery of a bed of oysters in Blissville Township in Jefferson County, of which Mount Vernon is the capital. They say that the specimens that have been dug out of the clay are unusually large, and considerably firmer than those that come from Baltimore and other ports.

Send me up a quart for Thanksgiving, please.

They told a good story the other day on "Ros" Strong, director of the "Homer Harmony Hummers," that is really too good to keep, so I am passing it on:

A woman friend dropped in the other evening to chat with Mrs. Strong, and was surprised to find "Ros" enveloped in an apron, washing the dishes.

"Where's the wife?" the visitor asked cheerily.

"Over at the barber shop," came the grumpy reply.

Joseph C. Gardner, President of the Indiana Sheet Metal Contractors Association, came in to see me this week.

He was in Chicago looking at the Old People's Home, not for a place for himself, but with the intention of erecting one in Indianapolis.

R. S. Thompson, who sells "Vernois" furnaces, was eating his frugal lunch the other day when I saw him in Columbus, Ohio, but he took time off between bites to hand me the following good story:

Two negroes, Sam and Rastus, thought their boss was keeping them past quitting time, so they decided to buy a watch together. Sam was agreed upon to be the timekeeper; neither negro, however, could tell the time, but they were too proud to let each other know the fact. The next afternoon Rastus said to Sam:

"Say, Niggah, wot time am it?"

Sam pulled out the watch and thrusting it into Rastus' face, said:

"Dere it am."

Rastus looked at the watch doubtfully, scratched his head and said: "Damn if it ain't."

Loyalty.

A man may lose his house and lot His friends may pass him by, He may not have a thin dime left To rent a slab of pie; But if he owns the homeliest And saddest dog in town, He has one pal whose honest love Will never turn him down.

A man may kick his mangy pup
And cuss him day and night,
Still will the faithful cur be true
And greet him with delight;
Life long he sits upon the porch
And wags his happy tail,
To greet his lord when he shall come
From Congress or from jail.

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Mr. Smith Wants to Know Why Furnaces Cost So Much When He Buus.

And He Is Rather Discouraged, So We Tell Him a Few Wholesome Truths for the Good of His State of Mind.

N THE September 27th and Oc-1 tober 11th issues of AMERICAN ARTISAN we published two letters from a furnace manufacturer in which some criticisms were made of the manner in which furnace installers and sheet metal contractors kept their shops and did their selling.

A number of letters have been received from subscribers, most of which agreed in some part at least with Mr. Jay, but one of them illustrates so plainly the attitude that too many installers take toward their business that we feel it proper to give all the space necessary to publish that letter and the advertisement about which our correspondent writes.

His letter follows: To AMERICAN ARTISAN:

I notice that a Mr. Jay has been giving you a lot of bunk about what installers and tinners ought to do and why they do not make more money.

If that same Mr. Jay would pay a bit more attention to making furnaces at a price that will make it possible for us installers to compete with advertisements like the one I tore out of last Sunday's Tribune, he would not have to worry about his meal ticket for he would have so much business that his foundry could run every day in the year.

How can anybody compete with a firm that offers to install furnaces at any such prices and come out even, to say nothing about making a profit?

The whole trouble is that furnace manufacturers want to ride around in high-priced automobiles. They have to have big offices and clerks enough to make a whole baseball league, and, of course, their salesmen have to ride in parlor cars and stop at the best hotels-and all of it is added to their cost of manufacturing and a big profit besides, so that by the time we fellows get to buy their furnaces we have to pay prices altogether out of reason.

There must be somebody from

whom those concerns like the one who advertises in the Tribune can buy furnaces at a fair price, for they are not in business to lose money. but I have not met any of those manufacturers yet, even if I have been switching from one to the other every couple of years, and I have been in the business for nearly thirty

I don't suppose you will publish

Mail us your order if you cannot come to our salesrooms. If you live beyond 35 miles of our plant be sure to state how you want shipment made.

Immediate Delivery Of Your Complete

HEATING SYSTEM!

Plenty of time remains to install your heating system. Our efficient, expert engineering service enables us to prepare the blue print plans, detailed specifications and assemble all material to completely install your heating system and deliver everything to you in less than a week's time. Act now! Don't delay another moment. Nowhere in all Chicago can you secure guaranteed high grade heating materials at such low prices as we are now offering.

Warm Air Furnace for Individual Piped System



Over 10,000 "Perfection" Heating Systems in the Chicago District Alone!



A Harris Perfection Warm Air Heating System is quickly and easily installed. Don't put up your heating stove this fall and go through another winter of drudgery and dirt with coal and ashes in the living rooms of your home. Enjoy the comfort of healthful warm air in all your rooms. Put your coal, furnace and ashes in the basement where they helps.

Diameter Firepot	Heating Capacity Cu. Ft.	Price each.	Diameter Firepot	Capacity Cu. Ft.	Price each.
20 inch	10,000	\$ 75.00	18 inch	10,000	\$ 82.00
22 inch	15,000	80.00	20 inch	13,000	98.00
24 inch	20,000	110.00	22 inch	18,000	115.00
26 inch	-30,000	128.00	24 inch	25,000	140.00
There are and	Kan farama	-1	ne inch		105.00

Our Estimators Will Call Anywhere in Chicago

A rough sketch showing the size and location of rooms, window and door sizes and height of ceiling is all we need to give you a complete estimate of the heating system for your building. If you cannot come, a phone call will bring our estimating engineers to your home at any time convenient to you if you are located in Chicago.

Newspaper Advertisement on Which Subscriber Bases His Plaint.

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this letter, for I know that you get your profit out of the advertisements that you receive from the furnace manufacturers, and, incidentally, I have to help pay for that, too. Do not publish my name.

Yours truly, John Smith.

The Editor saw the advertisement shown on this page which was sent in by our subscriber. There is nothing particularly striking about it. The prices, it must be remembered, are for the castings only. The casing and installation are extra, and for the kind of furnace—grade and weight—these prices are not materially out of the way. At least they are not so low that any installer who cares to sell such a low-grade furnace cannot compete and make a fair profit.

That is the point:

You can buy a "Lizzie" for \$295. It will take you over the road as fast as the average man cares to drive.

It costs less to operate and keep in repair.

It will last practically as long as any other car.

But-

Two good-sized men will be uncomfortable in the front seat and three men of average size have to squeeze themselves in order to get into the rear seat.

On roads that are not perfectly smooth, it is far from a pleasure to ride in one of Mr. Ford's machines.

It is the same way with warm air furnaces.

There are concerns that make and sell a very low grade of furnaces, and their prices are lower, of course, than must be asked for others that are heavier, better made and better installed.

They sell in large quantities, have no collection costs and very little in the way of selling expenses. Their contracts and deliveries are made early in the year, all of which makes it possible for them to operate at a lower total cost than a concern which has to carry accounts for several months, whose orders average less than ten furnaces each,

whose deliveries are arranged to suit their many small customers which means that it must warehouse its furnaces sometimes as long as six months.

We need not apologize for any of the furnace manufacturers whose advertisements we carry. No apology is needed from them. They are making it possible for a large number of installers to build up prosperous business enterprises, and they make furnaces that any honest installer can afford to recommend to his friends, and the very fact that they spend their good money for advertising in AMERICAN ARTISAN makes it possible for them to sell their furnaces as cheaply as they do, because their business has grown through consistent advertising to a point where their sales and operating costs are being reduced by the increased volume of their sales.

And, incidentally-

You, Mr. Smith, would have to pay considerably more than you do for your subscription to AMERICAN ARTISAN if it were not for the advertisements that we carry. So you are not "helping to pay for these advertisements."

When we know that in three years a brand new firm built up a furnace business in a city of less than 250,000 people that ran up to over 750 installations during the first eight months of this year, and—

When we know that this business was built around a furnace which is advertised in American Artisan and that the account was opened as a result of one of these advertisements, and—

When we know that in another city, of less than 150,000 people, an account was started two years ago and that the sales of this concern this year will run up to nearly five hundred furnaces, and—

When we know that this account also was started as a result of an advertisement in American Artisan, and—

When we know that these two concerns, and many others, would not have been reading this publication if they had not found by experience that it contained useful, helpful, practical information out of which they could make a profit—

Then we are inclined to feel rather proud of the fact that we are helping to build up the furnace industry to a truly dignified and really profitable condition.

Our advice to Mr. Smith is, that he do one of two things:

Either change his attitude toward the business out of which he is now making his living. There is no good reason for the attitude he seems to have taken.

Or that he quit the furnace business and get into one where no initiative or backbone is required, such as tax collecting or grave digging, and even there we doubt that he will be satisfied.

C. W. Davis Thinks Torr Is Wrong About Construction of Underground Cold Air Ducts.

C. W. Davis, of Whitewater, Wisconsin, has some comments to make about the third article of the series now being written by T. W. Torr, heating engineer for the Rudy Furnace Company, Dowagiac, Michigan.

Mr. Davis contends that cold air cannot be made to rise up around a joist when once lowered and that



Davis Says Cold Air Won't Rise.

the same holds true in the case of an underground duct, such as that described by Mr. Torr.

Mr. Davis' letter follows:
To American Artisan:

I noticed an article in AMERICAN ARTISAN, under date of October 11th, written by T. W. Torr, heating engineer for the Rudy Furnace Company, Dowagiac, Michigan, regarding the pit under the furnace.

Knowing Tom as well as I do, I am inclined to believe some one rocked the cradle too hard when Tom was a baby and it made him dizzy, and I don't think Tom got entirely over it.

I wish to ask him if he would box in a joist and run the cold air duct along until he came to the center beam and then drop his box down around it and run it up to the next set of joists, all the time expecting to get results?

Tom boy would say, "No, don't do it, as it's almost impossible to make the cold air rise up around the 'I' beam."

And I figure that a pit under a furnace acts the same way.

This to the Editor:

You can tell Mr. Torr that that is not the way we set Rudys up in Wisconsin. We use a shoe of ample size and the instant the fire pot becomes warm the cold air starts, but not so with a pipe.

C. W. Davis.

Whitewater, Wisconsin.

Turton Advises Torgerson Hardware to Change Present Location of Pipeless Furnace.

Says Return Air Supply Is Now Being Taken from Wrong Place Which if Remedied Would Remove Difficulties.

IN our October 4th issue the Torgerson Hardware Company asked how a warm air pipeless furnace could be rearranged so as to make it operate more efficiently.

George W. Turton, of Niles, Michigan, made the discovery that the furnace was not properly located, nor was it taking the return air from the proper source.

A rectification of these defects Mr. Turton thinks will permit the furnace to perform its work in a satisfactory manner without the necessity of putting in a "cold air pipe."

Mr. Turton's letter follows: To American Artisan:

Referring to the warm air heating problem of the Torgerson Hardware Company in the October 4th issue of American Artisan, I have sketched in on the drawing the proper location of the heater and the flue.

This furnace is the regular top radiator type cast iron, 59-inch outside casing, 30-inch outlet pipe, 42x 42-inch grating and 25-inch grate.

The article says, "Plant is large enough." There seems no room for dispute there. Then what is wrong with it? Not so easy to answer, and be sure, at this distance, though the combination of a few factors, or even one alone may be the answer.

A brick veneer building, which this is, if without air space, is usually a cold building.

Carefully examine the furnace casing to see if it is properly connected, separating the inlet and outlet air. Is the base ring cemented and air tight?

Note the 9x12-foot opening on the floor line in a direct path from the grocery department to the furnace grating, only 13 feet distant, while the opposite, and glass end of the building is more than 50 feet distant; and perhaps cross counters interfering with the direct flow of return air. (No information on fixture arrangement.)

It would seem that one-half the

It would seem that one-half the supply of return air is taken from the grocery department—which the owner says he is not trying to heat—instead of from the front end where the glass exposure increases the heat loss.

Does it not follow and seem quite reasonable that the present location is wrong? With that idea in mind I have noted on the plans the proper location of the heater with a flue at the side—either side.

I am quite sure this same heater, if properly installed in the location indicated, would produce all the comfort desired at little more than half the fuel used in the present location.

And you may safely forget about adding "cold air pipes." This heater has a triple casing with a circulating air insulator. If put together properly its lungs are quite adequate.

Here's hoping some suggestion herein, or a happy thought from other interested readers may be the means of rectifying the inefficiency reported.

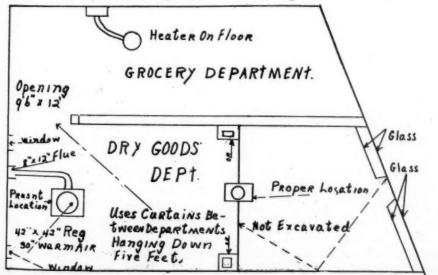
> Sincerely, G. W. Turton.

Niles, Michigan.

Lamneck's Open Warehouse and Sales Office in Toledo.

In order to serve more efficiently their growing number of customers in Northwestern Ohio, Southern Michigan and Northwestern Indiana, the W. E. Lamneck Company, manufacturers of "Simplified" furnace pipe and fittings, laundry dryers and stovepipes, have established a warehouse at 1924 Canton Street, Toledo, with sales offices at 1753 Nicholas Building.

A. K. Anderson and E. B. Krapp are in charge.



Showing How the Torgerson Furnace Would Be Rearranged by G. W. Turton.

Molders' Union Is Not on Good Terms With Holland Furnace Company.

Holland Furnace Agents May Be Fine Men, But Their Company Is Unfair, Say Union Men.

THE following article, which appeared in the September issue of International Molders' Journal, the membership organ of the International Molders' Union of North America, is published without comments for the information of furnace installers who sell union made furnaces:

The Holland Furnace Company.

"The agents of the Holland Furnace Company, upon whose shoulders rests the task of selling Holland furnaces, are adopting interesting methods to convince prospective purchasers that the Holland Furnace Company is fair to organized labor. Wherever our members and other trade unionists tell the story of the kidnaping in Holland, Michigan, and the strike of our members in Cedar Rapids, Iowa, the Holland Furnace Company agents endeavor to convince prospective customers that the Holland Furnace Company was in no way responsible for the kidnaping and the mobbing of our organizers in Holland, Michigan, and that the strike in their Cedar Rapids plant would not have occurred if the general manager in Holland, Michigan, had understood the facts connected with the situation in Cedar Rapids.

"They tell prospective customers that the Holland Furnace Company has been perfectly willing, and for that matter desirous of meeting the officers of the International Molders' Union, for the purpose of endeavoring to effect a settlement of the dispute. Some agents have even gone so far as to assert that there was no kidnaping in Holland, Michigan, or that no employes of the Holland Furnace Company had anything to do with mistreating, intimidating, assaulting, or in any other manner abusing any member of the Molders' Union in that city.

"So emphatic have some of the agents become that the representa-

tive of the Holland Furnace Company in Mansfield, Ohio, during the month of August, offered to give Local Union 198 one thousand dollars if they would show that employes of the Holland Furnace Company had anything to do with the kidnaping of Charles Lake, Ir., which occurred August 2, 1923. The evidence that the kidnaping took place, that one of the kidnapers admitted his guilt, and that he immediately returned to work in the foundry of the Holland Furnace Company, was forwarded to Mansfield, but if the Mansfield agent is as clever in side-stepping an issue as the management of the Holland Furnace Company has been in sidestepping every earnest effort to bring about a settlement, our local union will fail to place one thousand dollars additional in its treasury, regardless of the evidence it will pre-

"The agents for the Holland Furnace Company are hard-pressed in view of the company's past actions and its positive assertion that it would run its foundries "open shop." Agents in the various cities, whose livelihood depends upon their selling the Holland furnaces, can be expected to use their best efforts in an attempt to create the belief that the Holland Furnace Company is a very fair and kindly corporation to its employes, and has a most earnest desire to be on friendly terms with organized labor.

"Some one in Muncie, Indiana, interested in the Holland Furnace Company's affairs, endeavored, during August, to secure information concerning the reasons why the Holland Furnace Company is charged by the International Molders' Union of North America with having been unfair and antagonistic in its attitude towards our members.

"A typewritten letter was received at headquarters, signed with a lady's name. She intended, she wrote, to put in a Holland furnace; she had heard that the Holland Furnace Company was considered antagonistic to the Molders' Union; she could not understand how this could be so, for the Holland Furnace Company paid higher wages to its employes than other employers in Muncie; she desired to have head-quarters send her information concerning the reasons why the International Molders' Union was opposed to the Holland Furnace Company's labor policy.

"The language of the letter created a question as to the writer's straightforwardness of purpose. The sheet of paper upon which it was written was not of the usual size. It looked very much as though it was part of a sheet of paper carrying a letter head, the letter head having been cut off. This belief was verified, for when the paper was held to the light it carried a watermark; not the union watermark of the Paper Maker's Union, but the following: 'Holland Furnaces Make Warm Friends.'

"The individual signing the letter was informed that our local committee would give all the information concerning the Holland Furnace Company so far as its attitude towards the Molders' Union was concerned, even though her letter was typewritten upon the Holland Furnace Company's stationery.

"The Holland Furnace Company for years employed none but nonunion molders at its home foundry in Holland, Michigan. In its Cedar Rapids, Iowa, foundry it employed but one or two union men. When the foundry in Cedar Rapids was organized and a request made for an eight-hour day, the shaking out of the work and cutting over the sand, and an opportunity of seeing discounts, the local manager refused to grant any of the requests or discuss their merits. When an officer of the Molders' Union went to Holland, Michigan, for the purpose of interviewing the manager of the home plant, he was refused an interview. When our members struck at the foundry in Cedar Rapids, the

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company promptly secured an injunction which prohibited our members from doing any picketing.

"When efforts were made to organize the molders in Holland. Michigan, our organizer mobbed by men, many, if not all of whom were employes of the Holland Furnace Company. With these men, as they grouped themselves around the hotel where Organizer Burns was staying the night of the assault and kidnaping, was the foundry superintendent. On the same evening two automobiles filled by men who were recognized as Holland Furnace Company employes, were searching for one of our members, and as a result he was warned not to return to his boarding house for evidently there would be grave danger to him if he did.

"About 11 o'clock the same evening this member's son, Charles Lake, Jr., was kidnaped and threatened with death unless he revealed to his kidnapers where his father could be found. The kidnapers, five in number, were all employes of the Holland Furnace Company. One of these was afterwards identified in court, where he confessed his part in the dastardly attack, after which his fine was immediately paid and he returned to work in the Holland Furnace Company's foundry.

"Another member was assaulted on the street in the presence of a policeman, and instead of making arrests the policeman went to him and offered to give him safe conduct to his home. Some fifteen or twenty Holland Furnace Company employes surrounded the home of another member, and their actions became so threatening that he loaded a shotgun and a rifle, and notified the mob outside that any effort on their part to enter his home would result in shooting.

"So far as we have been able to discover the Holland Furnace Company made no effort to discover who the members of the mob were, and none of their employes were discharged. In view of the fact that the foundry superintendent was present with the groups of Holland Furnace Company employes until

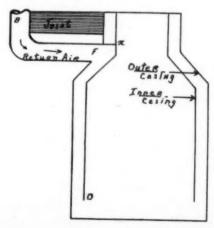
the moment before the kidnaping took place, and that he was evidently in command while the effort was being made to get Charles Lake, Jr.'s father, the inference is inescapable, that the management of the Holland Furnace Company must have known something as to what was going on, and if they read the local newspapers they must also have been aware of the kidnaping, and of those who were charged with having perpetrated it.

"Many agents of the Holland Furnace Company are excellent citizens, too fine a type of men to be called upon to defend the anti-union labor policy of the Holland Furnace Company. But if they expect to sell Holland furnaces through statements that the Holland Furnace Company is fair to organized labor they are attempting the impossible, for the facts concerning the Holland Furnace Company's attitude towards the Molders' Union are becoming better known every day."

James C. Allen Corrects the Torgerson Problem With an Auxiliary Cold Air Duct.

James Charles Allen, representing the International Heater Company, Utica, New York, at Rockford, Illinois, also has submitted a solution to the problem of the Torgerson Hardware Company, appearing in the October 4th issue of American Artisan.

Mr. Allen has remedied the difficulty by placing an auxiliary cold air pipe to the left of the furnace



How J. C. Allen Would Correct Torgerson Problem.

which takes its air from the first floor.

Mr. Allen's description follows: To American Artisan:

Run a partition from X to O between the inner and outer casings equal to the area of the return pipe B, also equal to the throat entrance at F so that the inlet area, full size, will not be smaller than the open space between the casings. For example, if your return pipe is 154 square inches of air and the distance between casings is 5 inches, your fitting will distribute air over a distance of 31 inches around outer casing. This will do away with any changing of floor register as originally set. However, if the furnace is properly proportioned, this should not be necessary, as the warm air outlet would be throwing out a volume of warm air (not hot air) sufficient to meet the requirements, and the return would be gradual so as not to cause a draft on the floor.

Monitor One-Piece Radiator Proves a Success.

The Monitor Furnace Company, Cincinnati, Ohio, has recently perfected a new one-piece radiator to



Monitor One-Piece Radiator.

be used in the Caloric pipeless and Monitor pipe furnaces.

The new radiator was introduced with company's new model furnaces last spring.

The radiator, smoke collar and cleanout collar are all combined in a single casting, so that clean heat is assured in this construction by the elimination of seams and joints which are so often a troublesome source of smoke and dust leakage into warm air passages of a furnace.

The time and work required to install the new radiator, it is said, is greatly reduced because no bolt-

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ing of collars and radiator parts is required; no cementing of seams and joints.

Hero Furnaces Building Up Sales.

Presuming to forecast a prospective buyer's decision in an advertisement was at one time back in the annals of advertising a common practice. Nowadays, however, such advertising is generally looked upon with little sincerity.

The advertiser of today must realize that prospective customers are looking for service and comfort in selecting a furnace and competition compels the advertiser to put his

Buying a New Furnace?

All that we would like to have you do before you buy a furnace is let us explain a few advantages of the

HERO FURNACE

-then make your de-

C. E. De Wald

PHONE 370 345 Beach St., Aurora

Furnace Advertisement Appearing in Aurora, Illinois, Beacon-News.

best foot forward at the outset if he hopes to attract buyers into his store.

The appeal should be to get the prospect into the store. But in order to do this the ad must give some economic reason why the prospect should come to your store. He will not come of his own accord unless the advertiser has a monopoly on the furnace business in his town.

The accompanying advertisement of C. E. De Wald, taken from the

Aurora, Illinois, Beacon-News, carries a good appeal, but it does not go far enough. A good beginning has been made.

Installers! Get Behind the Warm Air Furnace and Push!!

Warm air furnace installers who are anxious to push warm air furnaces into more general use can very

Warm Air heating system is Best For the average Home Convince the public by telling them constantly

well take a tip on advertising from some of the foremost merchandisers.

The only possible way to create a greater demand for the warm air furnace than that which now exists is to bring the furnace and its merits to the attention of potential customers. People will not and cannot be expected to be interested in buying what they have not been educated to buy.

The furnace installer has got to convince the home owner that the warm air furnace is not only as good as any other method of heating, but that it is the best and, in fact, the only healthful way to properly and adequately heat a dwelling.

The installer should follow out the advice given on the accompanying logotype designed by the Warm Air Heating and Ventilating Association.

Get behind the warm air furnace in your advertising and push with all your might.

Are These Embodied in Your Code of Ethics?

Are you keeping faith with your fellow merchants by seeking the public's patronage only upon a basis of sound merchandising policies, truthful advertising, constructive salesmanship and faithful service?

If such sagacious methods of management are not included in your code of ethics, you are riding for a fall. Rectify them before it's too late.

Charles Koehring Goes Out After Business With the Garland Furnace Warm Air Furnace

The accompanying warm air furnace advertisement of Charles Koehring was taken from the Indianapolis, Indiana, News. For a small advertisement it is a good utilization of space.

We are inclined toward the opinion that the day of comparatives and superlatives in advertising are passing. Let's get on the band wagon with the leaders in the game. We have a product worthy of the best. Why not give it the best possible? The appeal of first, comfort; secondly, economy, and thirdly, construction detail; namely, gas-tight,

Garland Furnaces



50 Years' experience makes the Garland a better and more economical furnace. The patented fire bowl permits the use of

cheap coal. Extra large radiator gives more heat from equal amount of fuel. Easy payments,

CHARLES KOEHRING

878-882 Virginia Λve. DR exel 9400.

Warm Air Furnace Advertised in Indianapolis News.

large radiator, and other attributes which each individual furnace has.

If you expect a man to be a doctor or lawyer, you take the pains to train him in one or the other of those professions. The same logic applies to the warm air furnace industry. If you expect people to use warm air furnaces in preference to other forms of heating apparatus, you've got to educate them into a proper understanding of the apparatus and what can be expected from it. Let's go.

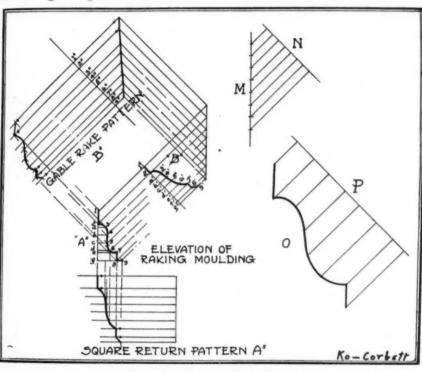
Kothe Shows How Patterns for Raking Gable Moulds Are Developed.

Answers Inquiry of Howard J. Corbett, Pontiac, Michigan, Illustrating His Explanation.

Written Especially for AMERICAN ARTISAN by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri.

RESPONDING to the inquiry of Howard J. Corbett, of Pontiac, Michigan, for development of raking moulds according to sketch—the accompanying drawing will illustrate the solution.

Observe, at M, where we space off a few divisions on a straight line, and if lines are projected at an angle in any direction; the spaces that result at right angles to these lines fied section through the gable mould "B." Observe, the angle of gable governs the angle to which the lines must be projected from detail "A." The width of the detail does not change, and so we draw any line as l-g at detail "A," and also another as l'-g' square with the gable line. Then by picking the distances as a a-3; b-4; c-5; d-6, etc., from "A" and set them as a'-3'; b'-4'; c'-5',



Patterns for Raking Gable Mould.

become smaller with the acuteness of the angle, as at N. Now if the width changes during this projection—then the girth must also change. At O, we have a mould detail, which has acute lines projected from its several points. Here we see the spaces on line P are closer together than they are in detail.

Now the same procedure follows when we develop a mould to a rake as at "A" which is the normal detail for the horizontal run of mould. As the gable grows out of the normal detail—we must develop a modi-

etc., in detail "B." This enables drawing the modified section as shown. From this section "B" the girth is picked for developing the gable as spaces 1'-2'-3'-4'-5', etc., and set as 1"-2"-3"-4"-5", etc. After this draw streachout lines, and develop the pattern as shown by pattern B".

The square return pattern A" is developed by picking the girth from the normal detail "A" and developing as an ordinary square miter. This concludes the development.

Berger's Announce New Prices on Conductor Pipe and Kindred Lines, Effective November First.

Revised prices on galvanized conductor pipe, gutters, ridge rolls and kindred products have been announced by the Berger Manufacturing Company, Canton, Ohio.

It is noted in the company's letter to the trade that in accordance with the recommendations of the Simplification Committee of the Metal Branch and of the Division of Simplified Practice of the Department of Commerce, 3 and 4½-inch eaves trough and 2½ and 3½-inch plain conductor pipe have been discontinued, and also that after July 1, 1925, 28, 26 and 24 will be the only gauges in which downspouts, gutters and other products in this class will be manufactured.

G. A. Byor Tells W. & T. How to Solder the Greenhouse Eaves Trough

G. A. Byor, Edgar, Nebraska, has submitted a solution to the soldering problem of W. & T. reported in the issue of American Artisan for October 11th.

The directions given by Mr. Byor are explicit and can be easily followed.

Mr. Byor's letter follows:

To American Artisan:

In the October 11th issue of American Artisan I have noted the inquiry by W. & T. asking how to solder a greenhouse eave trough, to avoid the joints from pulling apart. This trough, it is said, has been soldered the second time and still pulls apart.

I assume from the description given that the trough has been soldered in the usual way. If so, I will suggest to W. & T. to try the fol-

lowing method: First, if it is possible to do so, put in a few rivets at the joints; then solder the joints with a strip of zinc about three-eighths of an inch wide and place it over the joints to be soldered. For a flux use a raw muriatic acid and plenty of it. While the acid is boiling, get busy with a quite hot, clean

soldering copper and sweat the solder in good. The copper should be hot enough to fuse or melt the zinc. This makes a strong joint, and I believe W. & T. will find it suitable for their purpose.

Yours very truly, G. A. Byor.

Edgar, Nebraska.

J. E. Mattingly Explains Why Engineering Department Is a Sheet Metal Shop Necessity.

Story Appears in Initial Issue of American Rolling Mill Company's Ingot Iron Shop News.

THE initial issue of *Ingot Iron* Shop News, under date of October, 1924, has just made its appearance.

The paper is published at Middletown, Ohio, by the American Rolling Mill Company, and that company, according to Sherman Perry, intends to mail the paper, which is free for the asking, to sheet metal men all over the United States.

The following article, by J. E. Mattingly, a well known Indianapolis sheet metal man, is a specimen taken from the initial issue:

Engineering Department Needed in Every Shop.

It may be going a bit out of the way to use the term "Engineering" in connection with the sheet metal shop that caters to architectural and structural work. However, one whose duty it befalls to do the specifying, designing and approving of work in this class performs nothing less than the duties of an engineer.

The sheet metal contracting concern in this age is placed in a position whereby the technical and practical subjects of the business must be molded together in such forms that a service can be rendered to those whose task it is to design and construct the building, namely, the architect and builder. To render such service, it becomes the duty of the sheet metal shop that performs this class of work to retain the services of one who is qualified to meet this ever increasing demand.

This is only one side of the subject. Let us review the other side. While much work is performed under the supervision of an architect, there is an even greater amount for which the sheet metal man must assume the entire responsibility. To be equal to the task means that a certain amount of ability above that of the "tradesman" is necessary.

The designing requires skill and talent to make the subject conform with good taste and appeal to the critic. Structurally, the work must, conform with good practice, as well as with any laws or codes which are in force throughout the country. The materials used must be given consideration, for the whole work can be rendered useless by the lack of certain knowledge pertaining to what and how the raw stock should be specified. While these points cover the duty to be performed for the customer or client, the next in importance is getting the work out as economically as possible.

It matters not who is responsible for the job when it is completed. The fabricator and erector will get a share of the credit, "good or bad." The concern that can supply a service in a clear, convincing manner, both technical and practical, becomes popular and is in demand. It is trusted with the task of supplying the details and solving the problems that ordinarily are supplied by others who have little or no conception of the practical side of the subject treated. When entrusted with this duty, it is then that the turn takes place. There is no means of ascertaining just how much can

be saved when the matter of designing and detailing is taken care of by the contractor as against performing the operation from data supplied by the architect in charge. Therefore, it is the profit gained both from a financial as well as a prestige standpoint.

A sheet metal shop catering to high-class work in the building field, of course, has a "drafting room," where the work is laid out and the patterns are prepared. Certain detailing is done also. This is all necessary, and has been for many score years, and to this we will just add a wee bit more work and make those who do business with us understand that we know what we are about.

There are some who may take exceptions to this subject as above treated, but it must be admitted that not only the sheet metal contractor, but all tradesmen connected with the building industry are being brought face to face with engineering problems. Some have responded in an admirable way, others are only too lax for their own good interest.

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Where Did the Expression "Brass Tacks" Originale.

To AMERICAN ARTISAN:

For years I have heard the expression "Brass Tacks." The matter has been given particular emphasis lately through the fact that General Dawes, in his acceptance speech, used the expression. Also a brass manufacturer in Bridgeport, Connecticut, is sending out a little souvenir brass tack, claiming its derived meaning is something fundamental and genuine.

I should like to know just how this expression originated, as I have heard several different explanations. Can your readers help me out?

Yours very truly,

R. M. HUBLER.

Chicago, Illinois.

Whenever you feel like kicking about your 5 cent and 10 cent customers, remember about Mr. Woolworth's widow. Her income is \$443,000 a year.

If You Do Not Care to Get More Sheet Metal Cornice Work, This Is Not for You.

George Harms Would Like to Receive. Some Replies to Letter Mailed August 21st.

SOME people are very difficult to help out of the rut they are in maybe just because they are in a

Some sheet metal contractors have gotten to the point where they are satisfied to go along in the same hand-to-mouth way that they have been doing for years, because to get out of that way they must do something themselves.

They may be members of a local or state association; they may not be. If they are members they kick because their association does nothing for them, and the measly sum of three, five or ten dollars that they grudgingly pay into the treasury every year is regarded by them as a magnificent contribution to the welfare of the trade—when as a matter of fact it is far less than what each of their union employes pays into his organization every month.

They have no time to answer letters from their state or national secretaries or from state and national committees, the members of which spend their own money and time freely for the purpose of improving conditions for all sheet metal contractors.

And when the year comes to an end they consider very seriously whether it is worth while keeping up their memberships.

Some are that way and probably it is useless to worry about them or to try to get them to put their shoulders to the wheel of the wagon on which their own success is a part of the load.

However, there are those who will do their share when properly approached, and so we are glad to publish the following letter from the chairman of the Committee on Cornices:

DEAR SIR:

Your committee cannot accomplish very much unless we receive the cooperation of the different local and state associations.

It will be a useless expense to issue the booklet on cornices, unless you, in the first place, send in the names of all of the architects in your city and of the surrounding towns, and in the second place, take an active part to deliver these books when they are ready.

Our former letter was sent out on August 21st, and we should have reply by this time. COME ON, BOYS, GET INTO THE GAME, as without a full nine, we can't play ball. Our side is at bat now, and if we do not make a showing, we are sure to lose.

It is entirely up to you if we win or lose. If you are not interested in the game, do not believe that our efforts to bring back sheet metal cornices will succeed, TELL US FRANKLY.

The committee believes that we can accomplish almost anything that we are after, but we do ask that you help us.

We, therefore, urgently request an immediate reply.

Committee on Cornices, GEORGE HARMS, Chairman.

If You Have Not Sent in Your Suggestion for a Sheet Metal Slogan, Do It Now.

Chairman Lichty Emphasizes Fact That Slogan Must Be Short and Inclusive in Its Terms, Rather Than Specific.

INSTEAD of trying to solve cross word puzzles, some of you sheet metal men—and women—ought to pay heed to the following letter from Art Lichty, chairman of the Slogan Committee of the National Association of Sheet Metal Contractors, and send him suggestions for a slogan indicative of the merit of sheet metal.

Mr. Lichty writes as follows: October 20, 1924.

To AMERICAN ARTISAN:

The Slogan Committee greatly appreciates the publicity you have already given our work. We wish to state that there is a large number of slogans already in. Yet many of the parties who are submitting these slogans seem to be laboring under the impression that the slogan should fit some particular class of sheet metal work, and many of the ones already submitted apply to one class of work, such as furnace work, fire protection, cornices, etc.

The slogan that is desired by the committee and the one that will be selected will have to fit all classes and branches of the sheet metal industry, and the committee feels that

you can give us further coöperation by giving publicity to this fact in the columns of your valuable publication.

Also repeat the statement that anyone can enter this contest. Some very good slogans have already been received from the ladies.

Urge that slogans be sent in promptly, as there are already a number of duplicates; the first slogan of a duplicate received by the chairman only will be considered. A great many of the slogans already received are too long to be considered. The slogan must be short and still mean a great deal.

Assuring you that your coöperation is greatly appreciated, we remain,

Yours very truly,
N. A. LICHTY,
Chairman.

Waterloo, Iowa.

If you are properly concerned about putting all you can into the world, you won't need to worry so very much about getting enough out of the world.

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How Stremel Brothers, Minneapolis, Capitalized on Effectiveness of Fire Doors to Withstand Intense Heat of Conflagration.

One-Half of Large Building Saved by Effectiveness of Fire Wall Doors in Albert Dickinson Warehouse.

A SERIOUS conflagration occurred recently in Minneapolis, Minnesota, at the warehouse of the Albert Dickinson Company.

Fire, like murder, will out, in spite of all precautions taken to guard against it.

In the above instance, however, by a judicious application of fire proof doors to a fire wall, located nices, skylights and steel ceilings, in addition to fire proof doors and windows.

Immediately following the fire, Stremel Brothers Manufacturing Company ran a large advertisement in the *Minneapolis Journal*, showing how effectively the fire proof doors had blocked the progress of the fire's onslaught.

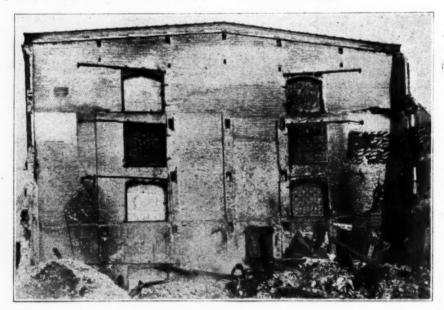


Illustration Showing How Fire Proof Doors Effectively Stopped Fire's Progress, Saving One-Half of Building Owned by Albert Dickinson Company, Minneapolis, Minnesota.

in the center of the building, the amount of damage was cut in half as the doors shown in the accompanying illustration effectually blocked the progress of the fire. Fortunately the wall was doubly equipped with these three-ply sliding fire proof doors, as in falling, the elevator shaft wiped the entire set on the fire side from their moorings. Those on the other side were fully able to block the fire's progress, in spite of the intense heat generated.

The warehouse was equipped with fire proof doors by Stremel Brothers Manufacturing Company, Minneapolis, makers of roofing, cor-

New Youngstown Sheet Mills Will Begin Operations Early in November.

The new sheet mills of the Youngstown Sheet and Tube Company, built at the Brier Hill Works, with eight units arranged for the making of full finished and common sheets, will start operation early in November. The plant is practically complete. The new butt-weld pipe mill of Republic Iron and Steel Company will be ready for operation before the end of November.

Let us help you with your shop problems.

High-Class Advertisements and Posters Displayed at National Industrial Advertisers' Convention

Occupying a prominent place under the banner of the Milwaukee Industrial Advertisers' Association at the convention of the National Industrial Advertisers' Association, held at the Edgewater Beach Hotel, Chicago, last week, a large placard of the Milwaukee Corrugating Company was seen.

Under the other banners were also seen hundreds of high-class industrial advertisements. Figuring among these were the American Rolling Mill Company and the Joseph T. Ryerson & Sons Company.

That of the Milwaukee Corrugating Company contained the Milcor Manual, the Sheet Metal Guide, broadside advertisements to building material dealers, direct mailing circulars to plastering contractors, specimens of trade paper series to architects and many dealer helps.

Smith Wants to Know How to Figure Dimensions of Tapered Tank.

Here is a problem for Harry Frye and the other geometrical experts to work on in their spare time:

To American Artisan:

We have a tank to build in our shop, with a capacity of 300 quarts, liquid measure. This tank cannot be over 28 inches high and is wanted with tapered sides. We do not know the rule by which the dimensions of such a tank can be figured out and shall appreciate any information you can give us on this matter.

Yours truly, H. L. SMITH.

Morristown, Pennsylvania, October 18, 1924.

We are going to do a risky thing: One of our editors, who claims to be a wizard on figures, says that the rule Mr. Smith needs is the following:

 $22 \times h (r^2 \times s^2) = 300 \times 231$

.7 x 2 . . . 4

"r" and "s" being the radii of the

base and top of the conical tank, and "h" its height.

He says that a gallon contains 231 cubic inches, so that the cubic contents in inches are

 300×231

4

The other side of the equation is based on the old time rule for finding the area of a circle.

According to our geometrical expert the sum of the squares of the two radii is then 394 (—), provided we take the maximum height of the tank, 28 inches. This would give us a tank with diameters at top and bottom of 34 and $20\frac{1}{2}$ inches respectively.

A 26-inch height would require diameters of 36 and 20 inches.

A 24-inch height would call for diameters of 36 and 23 inches.

He also says that as few sheet metal workers figure with decimals the figures are only approximate, but that they are correct within a quarter of an inch.

Now let us see if any of you fellows can give a better rule or easier way of arriving at the result that Mr. Smith is seeking.

Matthiessen & Hegeler, La Salle, Announce Price Change Effective October 22.

Matthiessen & Hegeler Zinc Company, La Salle, Illinois, have announced a price change effective October 22, 1924, on sheet zinc. The base price effective on that date will be \$10.25.

Your Association Officers Are Deserving of Thanks. Do They Get It?

The sheet metal and allied industries will improve must faster when men in them learn to say "Thank You." From what can be learned from others together with our experience, men certainly take a lot for granted. We know the officers of your association continually do little odds and ends for the membership, but it is mighty seldom, indeed, that they receive an acknowledgment with a "Thank You."

The thing has become so bad that one fellow asked one of them to wire him certain buying information, which he did, prepaying the telegram, but up to this writing he has not acknowledged the telegram, less to thank the officer for his time, or least of all, even offer to pay him the price of the telegram. If that wouldn't get your goat, what would?

Another fellow wrote him ever so often to inquire what prices were being gotten in a certain locality. Not once has he acknowledged the information with thanks. The other day, he inquired again. This time he was told there would be nothing doing until he learned to say "Thank You."

Suppose you were one of the many men who work for your association and you were continually in reception of such treatment, don't you think it would be just a little harder to carry on than if everybody were sweet and kind and considerate? For the love of all that is good and kind, learn to say "Thank You."

The men who are doing the actual work in your organizations not only deserve your support, but they deserve some acknowledgment of the gratitude which is due them from the members as a body.

Notes and Queries

Apollo Metalzinc.

From H. Bodlak, Devils Lake, North Dakota.

Who makes a metal which looks like silver and is used to cover soda fountain work boards?

Ans.—Apollo Metal Works, La Salle, Illinois.

Morrison and McCargo Bit.

From Roland Coleman, Painesville, Ohio.
Who makes the Morrison and McCargo bit?

Ans.—Morrison and McCargo Company, Darby, Pennsylvania.

Electric Cooling System. From T. P. Johnson, Louisburg, Kan-

Who makes a small electric cooling system for residence, grocery, confectionery, etc.?

Ans.—Frigidaire, Stover Company, 455 East Erie Street, Chicago, Illinois, and Kelvinator Corporation, 2051 West Fort Street, Detroit, Michigan.

Address of James Spear Stove and Heating Company.

From Aetna Sheet Metal Works, 344 North State Street, Chicago, Illinois.

Can you tell us where the James Spear Stove and Heating Company is located?

Ans.—1823 Market Street, Philadelphia, Pennsylvania.

"Universal" Skylight Rule.

From Guilfoy Cornice Works, 1234 Howard Street, San Francisco, California.

We should like to know which concern it is in Saginaw, Michigan, who make the "Universal" skylight rule.

Ans.—This is the Lufkin Rule Company.

Address of Copper and Brass Research Association.

From Campbell Heating Company, Des Moines, Iowa.

Kindly advise us where the Copper and Brass Research Association is located.

Ans.—25 Broadway, New York City.

"Marengo Steel Leader" Range.

From Stove Dealers Supply Company, Milwaukee, Wisconsin.

We should like to know who manufactures the "Marengo Steel Leader" range.

Ans,—This range was at one time made by the Collins and Burgie Company of Pueblo, Colorado, now out of business. There were no successors. However, some parts may be secured from the Northwestern Stove Repair Company, 654 West Roosevelt Road, Chicago, Illinois.

"Royal Victor" Furnace.

From Ludwig's Sheet Metal Works, Chillicothe, Illinois.

Can you tell me who makes the "Royal Victor" furnace?

Ans.—Hart and Crouse Company, 1446 South Canal Street, Chicago, Illinois, and Utica, New York.

Address of the Huffman Furnace Company.

From Stove Dealers Supply Company, Milwaukee, Wisconsin.

Can you furnish us with the address of the Huffman Furnace Company?

Ans.—This concern is out of business, and so far as we know, there are no successors.

Contrasting Old and New Ways of Doing Household Duties Makes Strong Appeal for Washing Machine Sales.

Pilcher Hardware, Ida Grove, Iowa, Depicts Truth and Helps Milady to Lighten Her Work.

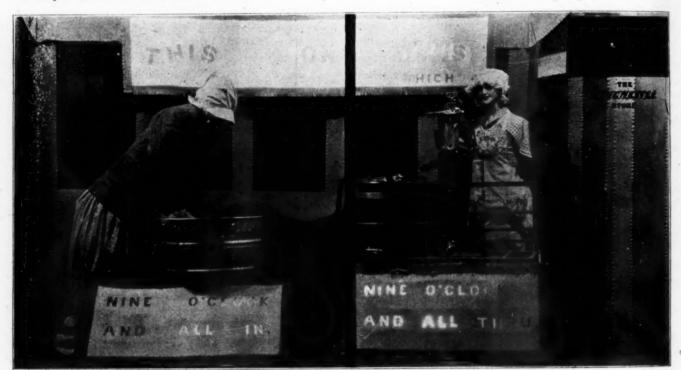
IN THE making of retail store window displays, as in making retail store advertisements, the object is to emphasize the time saved, labor lessened or the increased quality work procured by using the article advertised over the old way of doing it.

In buying a new washing machine, the woman is interested in the work it will perform for her and in the what every woman learned through actual experience or by deductive reasoning.

No woman who has had anything to do with household duties can fail to appreciate what it means to be in the position of the woman at the left, nor can they fail to appreciate the happy state of mind in which the woman at the right finds herself. trimmings on the left are of blue, while those on the right are of gold.

"The lettering in the signs is of blue on the left and of gold on the right, designating blue Monday and sunny Monday.

"The woman on the left is built of crating and her motions are controlled by means of a wire attached to the washer. She is adjusted by means of a spring so that her ac-



Washing Machine Retail Hardware Window Display Made by E. Wilson for the Pilcher Hardware Company, Ida Grove, Iowa, Which Brought in Many Customers.

heavy work from which she will be relieved.

Items of construction durability are important, but in the minds of most women they are points of a secondary consideration, the primary factor being time and labor saving to be effected in the ownership of the new article.

The accompanying illustrated window display is an excellent representation of the points we have brought out heretofore.

The display is excellent because it represents so fully and clearly Displays of this kind do a good work, because they first bring home a condition which most women have experienced or seen others experience and then shows them, like a guiding star, the way to relieve themselves of this drudgery or to avoid it entirely.

E. Wilson, who made the display for the Pilcher Hardware Company, Ida Grove, Iowa, tells in the following description how he went about the actual work of setting it up:

"The background of this display is green, made of tissue paper; the tions make her appear to be physically 'all in.' By means of this same spring she can be adjusted so as to be 'full of pep'; the sign can be changed from 9 o'clock and all in, to 12 o'clock and still going strong.

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"The signs are all electric, which brings them out into more prominence at night.

"The fact that the means of propulsion of the woman washing on the board and the machine were hidden created a mystery which gave us a chance to talk washing machine to a good many people.

Send Those Prize-Winning Window Display Photographs Not Later Than January 31, 1925.

American Artisan and Hardware Record Offers Four Cash Prizes for the Best Window Trims.

THERE is not one hardware man in ten who will deny that his window displays are his most important phase of retail selling. Do people ever look at a brick wall when passing? No they do not, unless that wall is attractively decorated so as to draw their attention. The same is true of a window display. If it does not attract, it has no power of suggestion. Its potentiality lies in its ability to draw people's attention and then to suggest purchases which make for increased profit to the store.

The dirty, cluttered up window display has no power to attract. In fact, it actually repels attention and speeds the pedestrian on his way with a desire to be quickly past the odious sight.

AMERICAN ARTISAN AND HARD-WARE RECORD window display competition gives each and every hardware merchant a chance to see just where he stands in the scale of proficiency as a window decorator.

Every man is imbued with the spirit of competitive endeavor. Because of this fact when called upon to compete in the lists of present day chivalry — chiefly business — power and even talents, are brought into action which the man never knew or dreamed he had.

Competitive endeavor is the greatest brain developer ever discovered. And while competing with some brother in the art of making window displays you are not only helping yourself, but the other fellow as well. There's no obligation. He helps you, you help him, and the art itself is advanced.

Send in your work to AMERICAN ARTISAN AND HARDWARE RECORD window display competition. You have an equal chance of winning one of the attractive prizes offered for the four best. Then, too, the added prestige gained by having won a prize is itself an inducement.

The prizes to be given are: First, \$50; second, \$25; third, \$15; fourth, \$10, paid in cash to the winners of the contest as soon as photographs are judged.

The photographs, together with descriptions of how the window displays were arranged and the materials used, may be sent by mail or express, charges prepaid, and must reach this office not later than January 31, 1925.

Each photograph and description must be signed by a fictitious name or device and the same name or de-

VOTE

NOVEMBER 4

VOTE
AS YOU PLEASE

BUT VOTE

vice must be placed within a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants may enter as many window displays as they desire.

AMERICAN ARTISAN AND HARD-WARE RECORD reserves the right to publish all photographs and descriptions submitted in this competition.

A competition committee of three will be appointed, one of whom will be an expert window dresser and one an experienced hardware man. This committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the contest.

The Results of a Surfeit of Credit.

In studying our financial history, the striking thing is that we never fail to try to meet economic distresses through vigorous doses of credit, and this, despite the fact that it was through credit orgies, that the distressful conditions came about.

Though this form of curative has always brought bad results there are still today many among us who believe business could be stimulated by opening the sluices of credit and deluging the country. Nothing more fallacious or harmful could be suggested as an antidote in a situation brought on by over-indulgences in credit.

When divine power comes to our assistance and aids us in impressing upon the business of this country the difference between credit and capital, between investment and emergency aid, we shall then have moved a long distance toward the elimination of economic errors such as always have brought their unhappy mornings after.

Credit Is Material and Moral, Says J. H. Tregoe.

There is a school where it seems difficult for pupils to advance into higher grades, and that school is the school of credit. Though indispensable in modern commerce and fundamental to its development, credit in its various elements is little understood and for that reason is suffering constant abuses, according to J. H. Tregoe, Executive Manager, National Association of Credit Men.

We pay large bills for our ignorance of credit principles. We go along merrily as though credit were governed by none of those hard and fast rules that prevail in all other matters with which mankind has to do. Some day the fallaciousness of endeavoring to create credit out of thin air will be generally understood.

In a recent editorial, a metropolitan newspaper made this statement: "Credit is not material; it is moral."

This is but half true. Credit is both material and moral. Credit is bought just like commodities. This is the exchange principle of credit. He who has credit to sell buys commodities or money with it, and while credit is not a value of itself, it represents elements, which, taken together constitute value and make a fair exchange.

Credit cannot be legislated. Failure to appreciate this by governments has caused dire disaster in the years just passed. Credit is at the base of our complex commerce; with it we create capital and wealth. Yet with so much ignorance prevailing regarding the credit function, we contribute annually a sum in credit waste that could as well be saved and used for production.

What the Law Says About Fixing Re-S le Prices.

The following statement is made by Felix H. Levy, a prominent New York attorney, to Fred D. Mitchell, secretary-treasurer of the American Hardware Manufacturers' Association, in answer to an inquiry:

"The law is settled to the effect that a manufacturer has the legal right to suggest to his customer the prices at which the manufacturer's product shall be sold. The manufacturer cannot, however, exact or receive from his customer any contract, agreement or promise that the customer will observe the suggested resale prices. The manufacturer is limited to the right to suggest such resale prices and to the further right to refuse to make subsequent sales to a customer who does not observe. such suggested resale prices. This statement of law is based upon a decision of the United States Supreme Court in the well-known Beech Nut Packing Company case, in which that court said:

"'By these decisions it is settled that in prosecutions under the Sherman act a trader is not guilty of violating its terms who simply refuse to sell to others, and he may withhold his goods from those who will not sell them at the prices which he fixes for their resale."

Coming Conventions

Mid-Year Meeting of the National Warm Air Heating and Ventilating As-sociation and Dedication of the Warm Air Heating Research Residence, Urbana, Illinois, December 2, 1924. Allen W. Williams, Secretary, Columbus, Ohio.

Western Warm Air Furnace & Supply Association, Meeting, Sherman House, Chicago, December 4 and 5. Secretary John H. Hussie, 2407 Cuming Street, Omaha, Nebraska.

Western Retail Implement and Hardware Association Convention, Kansas City, Missouri, January 13, 14, 15, 1925. H. J. Hodge, Secretary, Abilene, Kan-

Kentucky Hardware and Implement
Association Convention, Jefferson County Armory, Louisville, week of January
18, 1925. J. M. Stone, Secretary-Treasurer, 200 Republic Building, Louisville.

Texas Hardware and Implement Association Convention Dallas Texas Language.

sociation Convention, Dallas, Texas, January 20, 21, 22, 1925. Dan Scoates, Sec-

retary-Treasurer, College Station.
West Virginia Hardware Association,
Convention and Exhibition, Clarksburg,
January 20 to 23, 1925. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

Missouri Retail Hardware Association, Convention and Exhibit, Hotel Statler, St. Louis, January 26 to 28, 1925. F. X. Becherer, Secretary, 5106 North Broad-Becherer, Secreway, St. Louis.

May, St. Louis.

Indiana Retail Hardware Association,
Convention and Exhibit, Cadle Tabernacle, Indianapolis, January 27 to 30,
1925. G. F. Sheely, Secretary, 911 Meyer-Kiser Building, Indianapolis.

Mountain States Retail Hardware Association, Convention, Denver, Colorado, January 27 to 30, 1925. W. W. McAllis-ter, Secretary, P. O. Box 513, Boulder, Colorado.

Indiana Sheet Metal Contractors' Association, Convention, Lafayette, February (dates not decided). Leslie Beach, 1136 Main Street, Richmond.

Beach, 1136 Main Street, Richmond.
Oklahoma Hardware and Implement Association Convention, Masonic Temple. Oklahoma City, February 3, 4, 5, 1925. Charles L. Unger, Secretary-Treasurer, Oklahoma City.
Nebraska Retail Hardware Association Convention and Exhibition, Omaha, February 3, 4, 5, 6, 1925. Convention headquarters, Rome Hotel. Exhibition, City Auditorium. George H. Dietz, Secretary, 414-419 Little Building, Lincoln. Wisconsin Retail Hardware Association Convention and Exhibition, Auditorium, Milwaukee, February 4, 5, 6, 1925. P. J. Jacobs, Secretary-Treasurer, Stevens Point.
Ohio Hardware Association, Conven-

Ohio Hardware Association, Convention and Exhibition, Columbus, Febru-ary 10 to 13, 1925. James B. Carson, Secretary, 1001 Schwind Building, Day-

ton, Ohio.

New York State Retail Hardware Association Convention and Exposition, Buffalo, February 10, 11, 12, 13, 1925. Headquarters, Hotel Statler, Exposition at the Broadway Auditorium. John B. Foley, Secretary, City Bank Building, Syracuse.

Iowa Retail Hardware Association, Convention, Savery Hotel; Exhibit, Armory, Des Moines, February 10 to 13, 1925. A. R. Sale, Secretary, Hardware Building, Mason City, Iowa.

North Dakota Retail Hardware Association Convention (place not yet selected), February 11, 12, 13, 1925. C. N. Barnes, Secretary, Grand Forks.

Montana Implement and Hardware Association Convention, Helena, Febru-ary 13, 14, 1925. A. C. Talmage, Sec-retary-Treasurer, Bozeman.

Pennsylvania and Atlantic Seaboard Hardware Association Convention and Exhibition, February 16 to 20, 1925, at Philadelphia Commercial Museum. Sharon E. Jones, Secretary, 604 Wesley Building, Philadelphia.

Illinois Retail Hardware Association Convention and Exhibit, Hotel Sherman, Chicago, February 17 to 19, 1925. Leon D. Nish, Elgin, Illinois, Secretary.

Minnesota Retail Hardware Association Convention, St. Paul Auditorium, St. Paul, February 17, 18, 19, 20, 1925. C. H. Casey, Secretary, Nicollet Avenue and Twenty-fourth Street, Minneapolis. New England Hardware Dealers' As-

sociation Convention and Exhibition, Mechanics' Building, Boston, Massachusetts, February 23, 24, 25, 1925. George A. Fiel, Secretary, 10 High Street, Boston. South Dakota Retail Hardware Asso-

South Dakota Retail Hardware Association, Exhibit, Coliseum, Sioux Falls, February 24 to 27, 1925. C. H. Casey, Secretary, Nicollet Avenue and 24th Street, Minneapolis, Minnesota. National Retail Hardware Association, Philadelphia, June, 1925. H. P. Sheets, Secretary, Indianapolis.

Retail Hardware Doings

Illinois.

Matthews and Company's hardware at Princeton has been purchased by George Waterhouse and J. S. Miller, both of Walnut. Possession will be given January 1, 1925.

Indiana.

Messrs. John E. Deaton and F. M. Baker have purchased the hardware store at Pierceton, formerly owned by Mr. Dolen, and it will be known as the Deaton Hardware Store.

Michigan.

R. Day Patterson has purchased the interest of Fred L. Waters in the hardware store of Waters and Seeley, at Holly, and the firm will be known as Seeley and Patterson.

Minnesota.

A. L. Goodhope will open a new hardware store in St. James in the near future. He has a room in the St. James Hotel Building and will do tin and plumbing work in addition to carrying his hardware stock.

Montana.

deal has been completed whereby A. E. Hoff became the new owners of the Plevna Hardware Company at Plevna.

The store room at 1417 Harney Street in the Sunderland Building has been leased for ten years to Christopher C. Johnson, Luther E. Nelson and Oscar B. Doudna, who will open a hardware store about December 1.

Ohio.

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Henry F. Gebhart of 606 Cottage Street, Ashland, has resigned his posi-tion at M. A. McEntire's hardware to open a new hardware store at 311 Orange Street.

Thanksgiving Day Advertising Can Be Made to Pull Business If Properly Worded.

Nicholas Hardware Company Uses Illustrations and Reduced Prices Effectively in Thanksgiving Sale.

THANKSGIVING DAY approaches apace. The cornucopia is full and all is set for the celebration of this holiday of holidays—so far as the eaters are concerned. How about the cooks? Are they prepared with a full equipment of kitchen utensils for the occasion? Probably not. It's a long time since last year.

to determine her needs at her leisure.

It also gave her an opportunity to fill these needs to advantage, contrary to the general practice of many stores of gently raising the prices just before the holiday arrives.

The ad carries every conceivable need to make a Thanksgiving dinfestival is sufficient to interest the customer and to produce immediate action.

Creating Favorable
Publicity for the Store.

A wise sage has said, "If you get the other fellow to thinking about you, sooner or later he will buy something from you."

THIS SALE STARTS SATURDAY, NOVEMBER 17 AND CONTINUES UP TO THANKSGIVING DAY

A GREAT THANKSGIVING SALE

OUR SEASONABLE OFFERINGS MEAN A SAVING FOR YOU



Price, Quality and Variety to Be Found Here NICHOLAS HARDWARE CO.

The Nicholas Hardware Company of Oak Park, Illinois, believe in preparedness. They leave nothing to chance, as the accompanying advertisement taken from Oak Leaves will readily testify.

These energetic store managers are out for business and have set the stage for success.

It will be noted by the ad that the sale was set far enough in advance of Thanksgiving day to get ample opportunity for the housewife ner complete. It will be noted that the prices are all plainly marked. Another good point about the ad is that all of the articles offered are illustrated; in fact, the greater part of the space is filled with illustrations. These, together with the quotation of prices, is practically all that is required to make a sale of this type of advertising a success.

The reduction in price and the pressing need for the approaching

That is precisely what advertising does. It starts a certain group of people thinking about your store and the goods you have for sale there.

An advertisement has character much the same as a human being. If it is true that adverse publicity is undesirable because of the adverse public sentiment it creates, then constructive publicity must generate a favorable public sentiment toward the store.

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Competing with Mail Order House Stoves on a Quality Basis.

The race for record stove sales is on again. Retail stove merchants are bristling with activity and clouds of dust are flying from advertisement paraphernalia, as the merchant prepares for increased advertisement space. weights of Retort stoves with those of the mail order catalog would have been a suggestion worth while. This would arouse curiosity and bring many mail order customers into the store for the purpose of comparing prices. This gives the salesman a chance to show differences between mail order stoves and your stoves, with the possible result that a mail order house stove customer is won

Every man likes to think of his particular business as a world unto itself. This is wrong.

He is doing business in a worka-day world. Therefore if he wishes to be successful he must conform to recognized business practice, improving upon it wherever he can.

In view of the fact that changes are constantly going on, business to-day could never have attained its present magnitude without the experience of the past, any more than could the twelve-cylinder car have been a success without first going through the one-cylinder stage.

Each business fills a need or it could not exist, but its service must be carefully guarded so that as conditions change the service of that particular business will not be thrown out of kilter because it has remained stationary. No business can remain stationary and be successful. It must progress at all times. It must not only keep up with the times, but it must almost blaze the way.

Keep a true perspective of your business. You will make greater progress in this way than if you keep too close to it.

New Quick Meal Range Catalog and Price List Now Available.

The Quick Meal Stove Company, 825 Chauteau Avenue, St. Louis, Missouri, Division of American Stove Company, has issued its new Quick Meal Coal Range catalog No. 136.

The thirty-six pages of the booklet are beautifully illustrated. The ranges shown are of the Fusenamel type.

The various parts of the range are shown first and explained, while the latter part of the book is given over to showing the company's line of ranges in natural colors.

In addition to the feature already mentioned the book contains an auxiliary price list, giving the prices effective October 1, 1924. In this connection, it is noted, that the prices on most of the ranges are reduced. This is especially true of the reservoir ranges.



Stove Advertisement Appearing in the Kokomo, Indiana, Tribune.

The accompanying advertisement of the Kokomo Hardware Company was taken from the Kokomo, Indiana, Tribune. Its size was the same as shown herewith.

The arrangement of type and cut is good.

A few suggested changes will not be amiss, however.

Something regarding the advantages of the self-feed could have been incorporated into the head with little difficulty and to good advantage. A little more careful attention to proofreading detail would have eliminated the misspelled word which appears in the first sentence.

An invitation to compare the

over and sold one of your stoves on a quality and service basis.

Keeping a True Perspective on Your Business.

Correct perspective is essential and necessary in advertising.

A briar bush looks as big as an oak when close to the eye. Some stove merchants are so close to their businesses that they lose correct perspective. They fail to project themselves into space, so to speak, so as to enable them to look down on the business from a distance so as to get a correct perspective.

Election Affects Commitments to Some Extent, Inactivity to Be of Short Duration, However.

General Opinion Is That by Second Week of November Orders Will Again Come Forth in Good Volume.

CONSUMERS of iron and steel, like buyers in other lines of merchandise are playing safe, pending the outcome of the presidential election. This general attitude does not mean that business men are particularly fearful of the result, but that they are prepared for any contingency.

"The steel trade sees ahead two weeks of quietness in view of evidence it has had in the last three weeks that buyers are doing no speculating on the election outcome," the *Iron Age* says. "Both in pig iron and finished steel manufacturing, consumers are making even closer connections with furnaces and rolling mills and keeping their stocks down.

"Steel production is jogging along at about the September rate, with prices changing little, although tending to weakness, and current buying giving no indication of an early change."

Copper.

All producers of copper were acting as a unit in asking 13.25 cents delivered for electrolytic for shipment over the remainder of the year.

Consumers on the other hand are showing small interest, their views being more nearly 13.12½ cents delivered. Only one producing interest reports any business of importance transacted.

Bare copper wire has been selling at 14.87½ cents to 15.12½ cents in the open market; weatherproof has risen ½ cent to 16.62½ cents to 16.87½ cents; magnet wire is unchanged at 17 cents. Business in wire has been excellent the past 10 days.

Tin.

The movements in the tin market recently have been so erratic that any attempt to prognosticate day-today happenings is futile, and even to form a definite conclusion as to the more distant outlook is far from easy.

On Monday evening some resale lots of Straits tin were sold at 50.75 cents. Today there are bids at 50.75 cents against which there are offers to sell at 50.87½ cents to 51.00 cents.

Lead.

There is large inquiry for lead for early delivery and also November and December. But producers have little or nothing left for October, and are not quoting freely for November.

East St. Louis basis is bid at 8.12½ cents for October, and 8.15 cents for November. It is a one-sided market—plenty of buyers but few sellers. The buyers of lead have an unfortunate habit of moving all together.

Solder.

Chicago warehouse prices on solder are as follows: Warranted, 50-50 \$31.75; Commercial, 45-55, \$31.00, and Plumbers', \$29.75, all per 100 pounds.

Zinc.

There are bids here at 6.35 cents, East St. Louis basis, for either prompt or futures Prime Western and though October has been reported sold at 6.37½ cents there is little offered at that price.

Sheets

Although western makers of steel sheets are booking good tonnages and their obligations are mounting in a satisfactory manner, they are not attempting to pile up a heavy backlog.

Western delivered prices of sheets generally figure back to 2.80 cents, base Gary and Indiana Harbor, for blue annealed, 3.60 cents for black and 4.70 cents for galvanized, with Chicago delivered prices \$1 per ton higher.

Tin Plate.

Piecemeal buying of tin plate for filling in is all that is being done, and is all that will be done until the books are opened for the first quarter of next year.

While steel is a little cheaper than when the \$5.50 price was first made, pig tin is higher, making the tin plate cost now about 15 cents per base box more.

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$18.50 to \$19.00; old iron axles, \$24.50 to \$25.50; steel springs, \$19.50 to \$20.00; No. 1 wrought iron, \$14.50 to \$15.00; No. 1 cast, \$16.00 to \$16.50, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, $8\frac{1}{2}$ cents; light brass, $5\frac{1}{4}$ cents; lead, 6 cents; zinc, $3\frac{1}{2}$ cents, and cast aluminum, 15 cents.

Pig Iron Market Awaiting Results of Election.

The market report of Rogers, Brown & Company says:

"While the general trend of the pig iron market for the week just ending was to await the result of the election, there was some quiet buying by some of the large pipe radiator and steel interests, principally for first-quarter delivery. For shipment over the remainder of this year, however, buying continued in fair volume. A slight shading occurred in eastern Pennsylvania, but to offset this there was an advance of 50 cents in the Buffalo market; in the other fields prices remained stationary.

"The pig iron situation from the producer's standpoint is looking better than for some months past.

Chicago Warehouse Prices on Hardware and Metals.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS	HARDWARE, SHEET METAL SUPPLIES,	BOLTS. Carriage. Small, roll thread50-10-5% Small and Large cut	Damper. Acme, with tail pieces, per doz
Chicago Foundry\$20 50 Southern Fdy. No. 228 51 to 25 01	WARM AIR FURNACE FITTINGS AND ACCES-	thread50-5% Machine.	per doz
2	SORIES.	Small, roll thread50-5% Small, cut thread50-10-5%	COPPERS—Soldering. Pointed Roofing.
FIRST QUALITY BRIGHT TIN PLATES.	ADZES.	Stove70-5%	3 lb. and heavierper lb. 49 21/3 lb
20x28 112 sheets 25 80 X 20x28	Coopers'. Barton's	BRACES, RATCHET. V. & B. No. 444, 8 in\$4 54 V. & B. No. 222, 8 in \$ 89	1 1b
XXX 20x28 16 45 XXXX 20x28 17 65	AMMUNITION. Shells, Loaded, Peters. Loaded with Black Powder 18%	V. & B. No. 111, 8 in 3 55 V. & B. No. 11, 8 in 8 #2	No. 7 Std. per doz. banks. \$10 a No. 8 "" " " " " " 11 1
TERNE PLATES Per Box C 20x28, 40-lb. 112 sheets \$25 10	Loaded with Smokeless Powder	BRUSHES.	CORNICE BRAKES.
X 20x28, 40-lb. " " 28 00 C 20x28, 20-lb. " " 21 30	Winchester. Smokeless Repeater Grade20 & 4%	Hot Air Pipe Cleaning. Bristle, with handle, each \$0 85	Nos. 1 to 6B10
A AUARO, 00-10.	Smokeless Leader Grade	Flue Cleaning. Steel Only, each	COUPLING HOSE, Brassper doz. \$2;
C 20x28, 25-1b. "20 20 X X 20x28, 25-1b. "23 20 C 20x28, 20-1b. "17 80 C 20x28, 20-1b. "17 80 C 20x28, 15-1b. "16 55 C 20x28, 15-1b. "15 25 C 20x28, 12-1b. "15 25	U. M. C. Nitro Club20 & 4%	BURRS. Copper Burrs only48-10%	CUT-OFFS.
IC 20x28, 12-lb. " " 15 25 IC 20x28, 8-lb. " " 13 56	Arrow	BUTTS.	Kuehn's Korrekt Kutoffs: Galv., plain, round or cor. re Standard gauge
COKE PLATES. Cokes, 80 lbs., base, 20x28.\$12 70 Cokes, 90 lbs., base, 20x28.\$12 70	Winchester 7- 8 gauge 10&71/2 % 9-10 gauge 10&71/2 % 11-28 gauge 10&71/2 %	Steel, antique copper or dull brass finish—case lots— 3½x3½—per dozen pairs \$2 76 4x4	Standard gauge
Cokes, 80 lbs., base, 20x28.\$12 70 Cokes, 90 lbs., base, 20x28.12 95 Cokes, 100 lbs., base, 20x28.13 25 Cokes, 107 lbs., base, IC	ASBESTOS.	Heavy Bevel steel inside sets,	"Yankee" Hot Air.
Zokes, 135 lbs., base, IX 20x28	Paper up to 1/186c per lb. Rollbeard	case lots—per dozen sets 7 00 Steel bit keyed front door	7 inch, each 20c, doz\$1 2 3 25c, 25c, 2 2 5 2 10 2 32c, 2 3 3 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2
cokes, 165 lbs., base, 56 sheets	Millboard 3/32 to ½6c per lb. Corrugated Paper (250 sq. ft. to roll)\$6.00 per roll	wrought brass bit keyed	Smeke Pipe.
cokes, 195 lbs., base, 56	AUGERS.	front door sets, each 3 25 Cylinder front door sets,	7 inch, each
BLUE ANNEALED SHEETS.	Boring Machine40&10% Carpenter's Nut50%	each 7 50	10 " "
Base 10 gaper 100 lbs. 3 80	Hellow. Stearns, No. 4, doz\$11 50	CEMENT, FURNACE. American Seal, 5 lb. cans, net\$ 45 "50-lb. cans, "90 "25 lb. cans, "2 00	Reversible Check.
ONE PASS COLD ROLLED BLACK.	Post Hole. Iwan's Post Hole and Well 35% Vaughan's, 4 to 9 in\$15 60	Asbestos, 5 lb. cans, net 45	9 " "
No. 18-20per 100 lbs. \$4 30 No. 22-24per 100 lbs. 4 35 No. 26per 100 lbs. 4 40	AXES.	Pecoraper 100 lbs. 7 51	Post Hole.
No. 27 per 100 lbs. 4 45 No. 28 per 100 lbs. 4 50 No. 29 per 100 lbs. 4 60	First Quality, Single Bitted (unhandled), 3 to 4 lb., per doz\$14 00 Gcod Quality, Single	CHAINS. % in. proof coil chain, per 100 lbs	Iwan's Split Handle (Eureka) 4-ft. Handleper doz. \$14 7-ft. Handleper doz. 36
GALVANIZED. No. 16per 100 lbs. \$4 75	Bitted, same weight, per doz	CHIMNEY TOPS.	Iwan's Hercules pattern, per doz 14
No. 18-20per 100 lbs. 4 90 No. 22-24per 100 lbs. 5 05	BARS, CROW.	Iwan's Complete Rev. & Vent	V. & B. Star, 12-inch Length.
No. 26	Steel, 4 ft., 10 lb\$80 Steel, 5 ft., 18 lb	Iwan's Iron Mountain only 35% Standard 30 to 40%	4, 5/16 and %, each\$ 5, each
BAR SOLDER.	BARS, WRECKING.	Cold.	V. & B. Star, 18-inch Length.
50-50per 100 lbs. 31 75 commercial. 45-55per 100 lbs. 31 00	V. & B. No. 12 \$0 30 V. & B. No. 24 0 42 V. & R. No. 324 0 57 V. & B. No. 330 0 48 V. & B. No. 330 0 63	V. & B. No. 35, % in., ea, 38 Diamond Point. V. & B. No. 55, ¼ in 0 33 V. & B. No. 55, ¼ in 0 45	%, each
ZINC.	BITS.	Firmer Bevelled.	EAVES TROUGH.
n Slabs 7 25	All Vaughan and Rushnell.	V. & B. No. 65, 14 in 0 33 V. & B. No. 65, 14 in 0 45	Milcor Galv. Crimpedge, crated75-5
SHEET ZINC. Cask Lots (600 lbs.)	Screw Driver, No. 30, each \$ 30 Screw Driver, No. 1, each 18 Reamer, No. 80, each 45 Reamer, No. 100. each 45	Cape. Socket Firmer.	ELBOWS—Conductor Pipe.
BRASS. heets, Chicago base18%c	Reamer, No. 80, each 45 Reamer, No. 100, each 45 Countersink, No. 13, each 23 Countersink, Nos. 14-15, each 30	V. & B. No. 50, % in 0 31 V. & B. No. 50, % in 0 62	Milcor Galv., plain or corrugated, round flat. Crimp, Std. gauge65
Mill Base	Wood.	CHUCKS, DRILL. Goodell's, for Goodell's Screw	24 Gauge10
Rods, base	Atkins 30-in. Nos 6 40 26 \$5 40	DriversList less 35-40% Yankee, for Yankee Screw Drivers\$6 66	Square Corrugated. Milcor Standard gauge50
heets, Chicago base19%c	BLOCKS. Wooden45%	CLAMPS.	26 gauge30 Portico Elbows.
Tubing, seamless base22 % c Wire, No. 9 & 10 B. & S. Ga. 	BLOW TORCHES (See Firepots).	Adjustable. No. 100, Door (Stearns) doz\$22 00	Standard Gauge Conductor Ply plain or corrugated. Not nested
	BOARDS.	Carpenter's. Steel Bar. List price plus 20%	ELBOWS—Steve Pipe.
LEAD.	Stove. Per Doz.		
LEAD. American Pig	Crystal, 33"	Sherman's brass, %-inch	1-piece Corrugated. Uniform
LEAD.	Crystal, 33"\$28 90	Hese. Sherman's brass, %-inch per doz	1-piece Corrugated. Uniform D 5-inch